IN THE CLAIMS:

1. (Currently Amended) A microlithography method for coating a deep-featured substrate with a uniform thickness of photoresist, comprising:

preparing a mixed solvent based resist from a photoresist solution and a solvent having a higher volatility rate than the photoresist solution, the mixed solvent based resist having a viscosity between about one and about three centipoises;

rotating a substrate at a predefined speed~~, the substrate having a first surface~~;

spraying the mixed solvent based resist through a spray nozzle ~~coating the first~~ onto a surface of the substrate ~~with a negative-tone photoresist-solvent solution~~ at ~~an~~ a spray angle to the ~~first~~ surface of less than 90 degrees ~~to obtain coverage of deep etched features, the solvent having a higher volatility rate than the negative-tone photoresist, the negative-tone photoresist to solvent ratio being in the range of one to three and one to five and a half and having a viscosity of between one and three centipoises~~; and

~~moving a~~ accelerating the spray nozzle diametrically across ~~the diameter of~~ the ~~first~~ surface of the substrate ~~at varying speeds~~ to achieve a ~~negative-tone~~ photoresist coat of substantially ~~the same~~ uniform thickness ~~throughout the first surface~~.

2. (Currently Amended) The method of claim 1 further comprising:

priming the ~~first~~ surface of the substrate with a primer ~~having~~ to achieve a water contact angle between about forty and about fifty degrees.

3. (Currently Amended) The method of claim 2 wherein~~, once primed, the photoresist can be sprayed~~ the spraying step further comprises spraying in an environment[[s]] having relative humidity ~~levels as high as sixty~~ lower than fifty percent.

4. (Currently Amended) The method of claim 1 wherein the ~~negative-tone~~ photoresist solution is a ~~cyclohexanone-based~~ negative-tone resist ~~and the solvent is methyl-ethyl-ketone~~ solution and wherein the photoresist solution-to-solvent ratio is in a range between about one-to-three and about one-to-five-and-a-half.

5-7. (Canceled)

8. (Currently Amended) The method of claim ~~5~~ 1 wherein the ~~positive-tone~~ photoresist solution is a ~~propylene glycol monomethyl ether acetate-based~~ positive-tone resist ~~and the solvent is methyl-ethyl-ketone~~ solution and wherein the photoresist solution-to-solvent ratio is in a range between about one-to-five and about one-to seven.

9. (Currently Amended) The method of claim ~~5~~ 1 wherein the substrate includes deep etched features ~~are~~ deeper than 20 μm, and wherein the photoresist coat of substantially uniform thickness coats the deep etched features.

10. (Currently Amended) The method of claim ~~5~~ 9 wherein the deep etched features are deeper than 200 μm.

11. (Currently Amended) A method for coating photoresist on a substrate having deep etched features, comprising:

~~cleaning~~ immersing the substrate ~~by immersing it~~ into a cleaning solution;

rinsing the substrate in ultrapure water;

~~thoroughly~~ drying the substrate;

~~priming~~ coating the substrate with a primer by immersing it into a priming solution~~, the priming solution having a water contact angle of between forty and fifty degrees~~;

rinsing the substrate in ultrapure water to remove excess priming solution;

~~thoroughly~~ drying the substrate; and

spraying a mixed solvent based resist through a spray nozzle ~~coating the~~ onto a surface of the substrate ~~with a photoresist, wherein the photoresist is sprayed~~ at ~~an~~ a spray angle to the ~~substrate~~ surface of less than 90 degrees.

12. (Currently Amended) The method of claim 11 wherein

the ~~substrate is immersed into a~~ cleaning solution ~~of~~ comprises a peroxide-sulfuric solution,

wherein the immersing step is performed for a duration of ~~for~~ five to fifteen minutes, and

wherein the first rinsing step is performed for a duration of ~~substrate is rinsed in ultrapure water for~~ five to ten minutes.

13. (Currently Amended) The method of claim 11 wherein the deep etched features are deeper than 20 μm, and wherein the mixed solvent based resist achieves a coat of substantially uniform thickness along surfaces of the deep etched features.

14. (Currently Amended) The method of claim ~~11~~ 13 wherein the deep etched features are deeper than 200 μm.

15. (Currently Amended) The method of claim 11 wherein the ~~priming solution has~~ second drying step produces a primed substrate surface having a water contact angle of between about forty and about fifty degrees.

16. (Currently Amended) The method of claim 11 wherein~~, once primed,~~ the ~~photoresist can be sprayed~~ spraying step further comprises spraying the mixed solvent based resist in an environment[[s]] having relative humidity ~~levels as high as sixty~~ lower than fifty percent.

17. (Currently Amended) The method of claim 11 wherein the ~~photoresist is~~ mixed solvent based resist comprises a negative-tone photoresist solution ~~that is~~ diluted with a solvent, the negative-tone photoresist solution-to-solvent ratio being in ~~the~~ a range ~~of~~ between about one-to-three and about one-to-five-and-a-half.

18. (Currently Amended) The method of claim 11 wherein the ~~photoresist is~~ mixed solvent based resist comprises a positive-tone photoresist solution ~~that is~~ diluted with a solvent, the positive-tone photoresist solution-to-solvent ratio being in ~~the~~ a range ~~of~~ between about one-to-five and about one-to-seven.

19. (New) The method of claim 1 wherein the solvent comprises methyl-ethyl-ketone.

20. (New) The method of claim 4 wherein the negative-tone resist solution is cyclohexanone solvent based.

21. (New) The method of claim 8 wherein the positive-tone resist solution is propylene glycol monomethyl ether acetate solvent based.

22. (New) A microlithography method for coating a deep-featured substrate surface with a uniform thickness of photoresist, comprising:

applying a primer coat to the substrate surface to create a primed substrate surface having a water contact angle of between about forty and about fifty degrees;

rotating the substrate at a predefined speed;

spraying a mixed solvent based resist through a spray nozzle onto the primed surface at a spray angle to the primed surface of less than 90 degrees, the mixed solvent based resist having a viscosity between about one and about three centipoises; and

accelerating the spray nozzle diametrically across the substrate surface to achieve a photoresist coat of substantially uniform thickness.

23. (New) The method of claim 22 wherein the mixed solvent based resist comprises a photoresist solution and a solvent having a higher volatility rate than the photoresist solution, the photoresist solution-to-solvent ratio being in a range of about one-to-three and about one-to-seven.